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ABSTRACT

A study of the effects on public library circulation of putting a group of selected adult titles in a prime physical location is reported. It is hypothesized that public library circulation of these titles will be significantly greater when they are collected and placed in a prime location than when they are scattered on the shelves of even an open stack collection. The data for this study were collected over a 12 month period in the public libraries of Champaign and Urbana, Illinois. Phase one of the study (November 1, 1969, to April 30, 1970) was conducted simultaneously in both public libraries, and insofar as possible in the same manner. Phase two covered the six months from May 1, 1970, to October 31, 1970. The only intended difference between the two phases is that in phase two the Champaign library placed all adult copies of the titles in question on a book display rack just inside the door of the library and near the circulation desk. The circulation of the selected books in Champaign was found to be markedly higher in phase two than what it was in phase one, or in either phase one or phase two in Urbana. (Author/NH)

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The Effect of Prime Display Location on Public Library Circulation of Selected Adult Titles

by Herbert Goldhor

This is the report of a study of the effects on public library circulation of putting a group of selected adult titles in a prime physical location. The hypothesis of this study is that public library circulation of these books will vary directly with each aspect or combination of aspects which induce or encourage browsing, because (it is thought) public library adult circulation is occasioned mostly by browsing. More specifically, it is hypothesized that public library circulation of these titles will be significantly greater when they are collected and placed in a prime location than when they are scattered on the shelves of even an open stack collection.

The data for this study were collected over a 12 month period from November 1, 1969, to October 31, 1970, in the public libraries of Champaign and Urbana, Illinois. Champaign and Urbana are twin cities, adjoining each other and including the original campus of the University of Illinois. Champaign had a population in 1970 of 56,532, Urbana of 32,800, and the University of Illinois a student population of almost 33,000 in the academic year 1969-70[1]. Champaign Public Library had almost 97,600 books in 1970 after adding 6920 at a cost of $29,289; Urbana Free Library had over 77,000 after adding 2922 at a cost of $15,190; the University of Illinois Library had over 4.4 million volumes on the Urbana-Champaign Campus after adding about 175,000 at a cost of around $1,500,000. The Champaign Public Library had a total

[1] U.S. Bureau of the Census, 1970 Census of Population; Advance Report PC (VI)-15: Illinois, Final Population Counts (GPO, Jan. 1971) p. 26,37; "Statistics of Library Service: 1969-1970",,Illinois Libraries 52 (October 1970) p. 739-65; University of Illinois Library, Annual Report: 1969-70, pp. 18 and 19; and 1969-70 annual report to the Association of Research Libraries.

LI 003 533

41p.

circulation of 308,699 in 1969/70, Urbana almost 185,000, and the University Library almost 1,700,000 loans. Total expenditures of the Champaign Public Library were almost $130,000 (about $2.30 per capita) in 1969/70; Urbana Free Library spent almost $90,000 (or $2.74 per capita); and the University Library's total expenditures for this campus were $4,871,170 (or about $148 per student). Both public libraries are members of the Lincoln Trail Library System, the state-supported regional public library system.

Phase one of the study (from November 1, 1969, to April 30, 1970) was conducted simultaneously in both public libraries, and insofar as possible in the same manner. Phase two covered the six months from May 1, 1970, to October 31, 1970. The only intended difference between the two phases is that in phase two the Champaign Public Library placed all adult (both hardbound and paperback) copies of the titles in question on a book display rack just inside the door of the library and near the circulation desk. The books were freely available for loan, and were returned to this location upon being discharged from circulation. A sign above the books read: "Good Books You May Have Missed." There was no difference in the handling or treatment of the books in question in the Urbana Free Library, from phase one to phase two. Thus, if by chance a number of high school English classes were simultaneously assigned (in phase two) to read many titles on the list used in this study, the abnormal increase in the circulation of such books in the one library ought to be matched by a similar increase in their circulation in the other library, since the two public libraries honor each other's borrower cards. Each library has only one building and no branches; the Champaign Public Library has one bookmobile but its holdings and circulation were not included in the present investigation[1].

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[1] Only nine of the 110 titles studied were in the book collection of the bookmobile.

In considering a long-range study of the effects on circulation of changes in certain related variables, it seemed necessary and desirable to use consistently the same titles rather than to use samples of the bookstock or of the circulation, drawn at different times for observation, measurement and analysis. The latter approach would have given the study a broader context, presumably representative of the whole adult collection. But such repeated samples would not have allowed for altering the location, format or other aspects of specified titles whose previous behavior under normal conditions was known. In choosing to study specified titles under varying conditions, it is realized that any conclusions reached in this study are not necessarily applicable to all adult books even in these two libraries.

The books chosen are listed here in Appendix A. They were selected by staff members of the New Haven (Connecticut) Free Public Library[1], based in large part on a list prepared by the Milwaukee Public Library[2]. There are 110 titles, all "good" books, 55 novels and 55 non-fiction (as librarians usually define that term), mostly publications of the last century but some going back as far as the Greek classics. Titles like these were preferred for this study because they would be likely to have a steady and continuing use (unlike popular best-sellers which in a few years can go from extreme popularity to total neglect). In addition there was reason to expect that both libraries would have copies of most of these titles and would always want to continue to have them represented in their collections.

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[1] New Haven (Connecticut) Free Public Library, Librarians' Choice: 110 Significant Books from All Lands and Times (n.d., 16 p.)

[2] Helen Terry and Meredith Bloss, "Milwaukee's Significant Books' Experiment," Wilson Library Bulletin 33 (Jan. 1959) p. 349-54. See also Helen Terry, "Milwaukee's Experiment with 110 Selected Books," Wisconsin Library Bulletin 54 (May 1958) p. 172-74.

On the other hand it was recognized that many of these titles are often assigned to high school and college classes or appear as choices on lists for book reports, while the focus of this study is on the free reading of adults. Public libraries usually give an adult card and free use of the adult book collection to a youngster when he becomes a high school freshman, and these two libraries do so when a youngster enters eighth grade. It is hoped--and thought--that the measures used in this study (and reported below) serve to detect most of the use of these titles by students for school purposes. Furthermore since high school and college students are part of the adult patronage of public libraries, it is desirable that we understand what influences them to select the books they do when they have a choice. But again it is necessary to qualify the conclusions of this study until we know that the same results occur in similar investigations using other titles.

Before phase one began, the list of 110 titles was checked against the card catalogs of the two libraries, with the following results. Champaign Public Library held copies of 102 titles (93%), in all 318 copies of these books (according to the shelflist), 31 titles in one copy each, 18 titles in two copies each, 14 titles in three copies each, 14 titles in four copies each, 11 in five , six in six, five in seven and three titles in nine copies each. These data do not include copies of a few titles held in the Children's Room, and no circulation of these Children's Room copies are counted later unless taken out on an adult card. Some of the titles were represented by paperback copies and these are included in all phases of the study. All paperback books in Champaign Public Library were shelved together on a book display rack in the reading area, in phase one; in phase two the paperback copies of the selected titles were shelved with the hardback copies of those titles in the special display rack.

The Urbana Free Library held copies of 105 titles (96%), in all 234 copies of these titles, 39 in one copy each, 33 in two copies each, 15 in three copies each, nine in four, seven in five, one in six, and one title in seven copies. Of the eight titles not held by Champaign Public Library and the five not held by Urbana Free Library, four were not held by either, one was in Champaign Public Library but not in Urbana Free Library, and four were in Urbana Free Library but not in Champaign Public Library. Appendix A shows how many copies of each title were held by each of the two libraries at the beginning of this study. Before the end of phase one, the Urbana Free Library purchased one copy of each of two non-fiction titles (#68 and 87) which were not previously held by either library, and both libraries added a few extra copies of some of the titles already held (e.g., Champaign Public Library added five copies of one or another of the parts of the Forsyte Saga).

A reasonably wide latitude was exercised in regard to edition of the title; obviously for the purpose of this study it matters little which edition is available or borrowed. Each circulation of separately bound copies of any of the three main parts of the Forsyte Saga was counted. However it was decided not to count or include in this study single plays or books of selected poems when the title in question was the complete poems or the complete plays of an author. And it was recognized that many individual plays, poems, essays, and other parts of books on the list were available in these libraries in anthologies or other compilations, but these latter were neither identified for this study nor counted in the circulation. The goal was not to have bibliographically matched samples but to identify (hopefully all) the copies of these titles which were available to adults in these libraries in order to record their circulation under varying circumstances.

The design of this study is an approximation of the classical four cell pattern of a control unit (A in Fig. 1) and an experimental agency (B) in two time periods, one before the introduction of the experimental variable (1 in Fig. 1) and one for the period while the experiment is being carried on (2 in Fig. 2). Ideally the assignment of units to the control and experimental groups should be by random selection but in this study each whole group of patrons was so assigned in advance[1]. Thus in Table 2, the circulation total for Urbana in phase one is shown in cell A1, and that for Champaign in cell B1. As desired, the two totals are very close to each other, and this induces confidence that the situation in this regard in the two libraries was essentially the same before the experimental variable was introduced. For the second six-month period, when the selected books were in a prime location in the Champaign Public Library, the circulation of Urbana Free Library is shown in cell A2 and is seen to be reasonably close to that in A1 and B1, indicating that no major unintended variation was introduced. The circulation for the Champaign Public Library for phase two is shown in cell B2, and is more than twice as large as that in A2 or in B1.

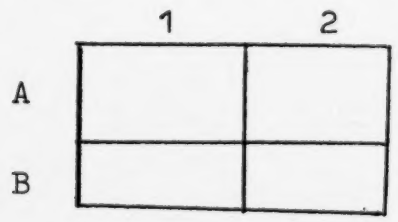

Fig.1. Four-Cell Experimental Design as Used in this Study.

Much of the data gathered in this study are for discrete variables (e.g., sex or fiction vs. non-fiction) rather than for continuous variables.

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[1] See Donald T. Campbell and Julian C. Stanley, "Experimental and Quasi-Experimental Designs for Research in Teaching," pp. 217-20 in N.L.Gage, ed., Handbook of Research on Teaching (Rand McNally, 1963).

All four-celled tables of data are shown in Fig. 2, using the same row and column designators as in Fig. 1 but not always with the same referrents as in Table 2. The statistical technique used here, to test for the presence or absence of differences greater than chance alone could explain, is the chi square test[1]. This test was used partly because of the nature of the data, and partly because the distribution of the general population of many of the variables used is unknown and therefore the actual data for these specific samples could not be checked for conformity to a generalized distribution. Chi square is a non-parametric test and makes no assumptions about the shape of the distribution of the parent population. Using the method of row and column totals to arrive at a theoretical expected frequency for each cell, one can calculate the chi square value and estimate the probability that the actual distribution is or is not essentially random and could arise solely because of sampling variability[2]. The value of p=.05 has been used as the minimum level for random or non-significant differences.

On the other hand it must be remembered that chi square tells us only whether a given distribution or pattern of data is such as might or might not occur by sampling variability alone. Chi square is a function of the number of cases used; a high chi square value (and therefore a low p value, indicating a non-random distribution) does not measure how strong the relationship is between the two variables in question. To estimate the strength of a certain relationship, Goodman's and Kruskal's gamma (G) has been used in 2x2 tables with a predicted difference as a result of the experimental variable in Champaign in phase two. As used here, gamma is the ratio of (a) the difference between the observations as predicted and the observations ordered in the reverse way, to (b) the sum of all ordered observations[3]. To use the symbols of Fig. 1 here, G = (A1 x B2) - (A2 x B1)/(A1 x B2) + (A2 x B1). Gamma has a theoretical range of -1 to +1.

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[1]Hubert M. Blalock, Jr., Social Statistics (McGraw-Hill, 1969) p. 212-29.

[2]Most cell values in the various tables reported below are large. When an occasional cell value was below five, Yates' correction or the combination of data from two tables was used, and never resulted in more than a small change in the resultant p value.

[3]Sheldon G. Levy, Inferential Statistics in the Behavioral Sciences (Holt, Rinehart and Winston, 1968) p. 157-61.

Circulation of the Selected Titles

The book cards in all copies of all titles in the adult collection in each library were marked by a red stripe across the top, as a prearranged signal to the staff that each such marked card represented a book in this study. The Urbana Free Library uses Gaylord charging, and all circulation desk assistants were asked to separate out each such striped card when found in the daily circulation. Once a week, a research assistant from the Library School visited the Urbana Free Library and, using the separated circulation cards for the previous week, recorded the author and title of the book and the registration number of the borrower.

The Champaign Public Library used audio-charging with serially numbered transaction cards, in the first six months, and photo-charging in most of the second six months. Each circulation desk assistant was asked to record on a pad of paper the transaction card number used in recording the loan of each book represented by a striped card. Once a week, the research assistant picked up these numbers, played back the reels of tape (or later the rolls of film) until she found a given transaction number, and then recorded the author and title of the book and the name and address of the borrower. On two occasions in each library in the first six-month period, the research assistant checked the book cards in the circulation trays in Urbana Free Library and listened to the rest of the tapes used for audio-charging at Champaign Public Library, to see if the staff were missing any of the striped cards and not recording them. In the four trials there were less than five such cases found, a small enough percentage to allow one to ascribe it to the ever-present human factor involved in watching for an occasional striped card at a busy circulation desk.

Table 1 shows the known circulation (other than renewals) of all copies of the selected titles in each of the two libraries, month by month for the period from November 1, 1969 to October 31, 1970 along with each library's total monthly circulation, and the Urbana Free Library's adult circulation (Champaign Public Library keeps no breakdown of its circulation by adult and juvenile books).

The figures shown in Table 1 are probably understatements of the true total circulation of these selected titles. Not only were a few striped cards missed by library staff members, but it is also known that some of the Champaign Public Library books on this list which were in constant circulation in late October (especially copies of Galsworthy's Forsyte Saga) were not caught and their book cards marked until well into November. We suspect too that some children borrowed Children's Room copies of some of these titles for the use of their parents or older brothers and sisters. We think that such errors of measurement are either reasonably uniform over time, cancel each other out, or are very small percentagewise over a six-month period.

It will be seen from Table 1 that total circulation of Urbana Free Library increased 14% from phase one to phase two (and total adult circulation increased 2%), but circulation of the selected titles declined 11%. In Champaign however, total circulation increased almost 4% but the circulation of these selected titles increased 113%. In other words, the circulation of these selected titles in phase two was 0.2% of total Urbana Free Library circulation (and 0.4% of total adult circulation), compared with 0.3% (and 0.5%) in phase one; while in Champaign the circulation of the selected titles was 0.4% of total circulation in phase two and 0.2% in phase one. When we compare the figures for the circulation of these selected titles in both libraries and in

TABLE 1
Monthly Circulation of Selected Titles: November 1969-October 1970

(a) Calendar Month	(b) Total Circulation Urbana	(c) Total Circulation Champaign	(d) Adult Circulation in Urbana	(e) Circulation of Selected Titles and as Percentage of Total Circulation in Urbana No.	(f) Urbana % of (b)	(g) Urbana % of (d)	(h) Champaign No.	(i) Champaign % of (c)
Phase One								
November 1969	13,373 (17%)	19,685 (16%)	7,465 (15%)	41 (17%)	0.3	0.5	37 (16%)	0.2
December 1969	10,492 (13%)	15,563 (13%)	6,629 (14%)	35 (14%)	0.3	0.5	33 (14%)	0.2
January 1970	14,163 (18%)	22,805 (19%)	8,989 (19%)	44 (18%)	0.3	0.5	31 (13%)	0.1
February 1970	13,067 (17%)	20,469 (17%)	8,074 (17%)	43 (18%)	0.3	0.5	36 (16%)	0.2
March 1970	14,158 (18%)	22,394 (18%)	8,589 (18%)	42 (17%)	0.3	0.5	66 (28%)	0.3
April 1970	13,061 (17%)	20,988 (17%)	8,319 (17%)	39 (16%)	0.3	0.5	29 (13%)	0.1
Sub-Total	78,314(100%)	121,904(100%)	48,065(100%)	244(100%)	0.3	0.5	232(100%)	0.2
Phase Two								
May 1970	12,153 (14%)	18,446 (14%)	7,448 (15%)	37 (17%)	0.3	0.5	88 (18%)	0.5
June 1970	16,377 (18%)	22,770 (18%)	8,419 (17%)	48 (22%)	0.3	0.6	104 (21%)	0.5
July 1970	18,696 (21%)	23,912 (19%)	9,244 (19%)	42 (20%)	0.2	0.5	116 (24%)	0.5
August 1970	15,160 (17%)	21,591 (17%)	8,336 (17%)	32 (15%)	0.2	0.4	80 (16%)	0.4
September 1970	13,418 (15%)	18,716 (15%)	7,571 (15%)	29 (13%)	0.2	0.4	55 (11%)	0.3
October 1970	13,509 (15%)	21,119 (17%)	8,151 (17%)	28 (13%)	0.2	0.3	51 (10%)	0.2
Sub-Total	89,313(100%)	126,554(100%)	49,169(100%)	216(100%)	0.2	0.4	494(100%)	0.4

10

both phases (Table 2) and apply the chi square test, the differences are greater than can be accounted for by chance alone. Clearly the circulation of these selected books in Champaign was markedly higher than what it was in phase one, or in either phase one or phase two in Urbana.

Appendix A shows the number of different titles of the list which were borrowed in each of these libraries for each six-month period. In phase one, 62 different titles (63% fiction and 37% non-fiction) were borrowed in Champaign Public Library, or 61% of the 102 held of those on the list, and 68 (60% fiction and 40% non-fiction) in Urbana Free Library or 65% of the 105 held in the six-month period. In phase two Champaign Public Library loaned 79 different titles (59% fiction, 41% non-fiction) or 77% of the 102 titles held, while Urbana Free Library loaned 73 titles (59% fiction, 41% non-fiction), 68% of the 107 held. The distribution of the number of titles loaned by each library in each phase is different from what chance alone might produce ($p=.02$), with the largest value for Champaign in phase two. Only five titles, all fiction, were borrowed more than nine times each in phase one in either library (two in Urbana, five in Champaign); but in phase two 15 titles, all fiction, were that popular (two in Urbana, 14 in Champaign). By far the most popular title in both libraries in both phases was Galsworthy's The Forsyte Saga (no. 24), not only because the television series based on this book was being shown locally at this time, but also because we counted individually the loan of any separately bound part of this title.

It is presumably to be desired that the fiction/non-fiction composition of the two libraries in phase one be the same, within sampling limits, and that it be the same also in phase two. That is to say, all else being equal we would prefer that the experimental variable be as effective with one type of book as with another. But in fact the differences in the total circulation of

TABLE 2
Circulation of the Selected Titles
in the Urbana (A) and Champaign (B) Public Libraries
in Phase One (1) and in Phase Two (2).

Library	(1) Phase One	(2) Phase Two	Total
(A) Urbana	244 (51%)	216 (30%)	460
(B) Champaign	232 (49%)	494 (70%)	726
Total	476 (100%)	710 (100%)	1186

$x^2 = 51.44$, df = 1, $p < .001$, G = .41

the selected fiction and non-fiction titles in the two libraries in phase one are greater than could arise by sampling variability alone (see Table 3 of Fig. 2); apparently the Champaign readers preferred the fiction more and the non-fiction less than did the Urbana patrons.

The imbalance in the fiction and non-fiction circulation is even more marked in phase two than in phase one (see Table 4 of Fig. 2). When one tests the distribution of fiction and non-fiction in phases one and two, separately for Urbana and for Champaign, they are random ($p = .25$ and $.70$), indicating that no major shift took place in this regard in either library. Similarly when one tests the distribution of circulation in both libraries in both six-month phases, but separately for fiction and for non-fiction, they are both significantly different from chance ($p < .001$ and $< .01$); in each case Champaign's circulation in phase two is the unbalancing factor. It would appear that our data do not match the desired situation in two regards, viz., the two libraries differed significantly in their fiction/non-fiction circulation not only in the pre-experimental period but even more so in the experimental period. On the other hand, the data do match the model in some other ways, viz., the fiction/non-fiction distribution did not change significantly in either library from phase one to phase two, and the total circulation of both fiction and non-fiction were affected by the experiment in the same direction.

It is also true that the distribution of the number of fiction and non-fiction titles (of this selected list) which were borrowed in either library in either phase, or in both libraries in both phases but separately by type of book, is random (p values from .47 to .99). This would indicate that the increased circulation of these selected books in Champaign in phase two was the result of a more intensive use of certain titles rather than a more evenly distributed use of all titles. This is supported by the data in Table 5,

Fig. 2. Condensed Tables, and Chi Square, p and G Values.

Table No. and Title	Values (and Percentages of Column) A1	B1	A2	B2	x^2	p(a)	G
2. Circulation of the Selected Titles in the Urbana (A) and Champaign (B) Public Libraries in Phase One (1) and in Phase Two (2)	244 (51%)	232 (49%)	216 (30%)	494 (70%)	51.44	<.001	.41
3. Fiction (A) and Non-Fiction (B) Circulation of All Copies of Titles on the Selected List in the Urbana (1) and Champaign (2) Public Libraries, in Phase One	164 (67%)	80 (33%)	182 (78%)	50 (22%)	7.16	<.01	.11
4. Fiction (A) and Non-Fiction (B) Circulation of All Copies of Titles on the Selected List in the Urbana (1) and Champaign (2) Public Libraries, in Phase Two	134 (62%)	82 (38%)	395 (80%)	99 (20%)	25.54	<.001	.42
7. Circulation of Hardback (1) and Paper-Covered (2) Books in Champaign, in Phase One (A) and Phase Two (B)	157 (31%)	355 (69%)	75 (35%)	139 (65%)	1.50	.24	---
8. Circulation of Selected Books to Students (A) and Non-Students (B) in Urbana (1) and Champaign (2), in Phase One	95 (45%)	118 (55%)	75 (46%)	88 (54%)	.04	.85	---
9. Circulation of Selected Books to Students (A) and Non-Students (B) in Urbana (1) and Champaign (2), in Phase Two	109 (55%)	88 (45%)	112 (28%)	284 (72%)	42.16	<.001	.52
10. Circulation of Selected Titles to Men (A) and Women (B) in Urbana (1) and Champaign (2), in Phase One	43 (19%)	186 (81%)	49 (22%)	178 (78%)	.69	.80	---
11. Circulation of Selected Books to Men (A) and Women (B) in Urbana (1) and Champaign (2) in Phase Two	55 (26%)	155 (74%)	96 (20%)	392 (80%)	4.02	.03	.45
13. Affirmative (A) and Negative (B) Responses in Urbana (1) and Champaign (2), in Phase One, to the Question: "Did You Borrow the Book for Yourself?"	137 (83%)	28 (17%)	114 (77%)	34 (23%)	2.02	.17	---

(a) With one degree of freedom, and for two-tailed test.

Fig. 2. (Cont'd.)

Table No. and Title	Values(and Percentages of Column) A1	B1	A2	B2	x^2	p(a)	G
14. ---------- in Phase Two							
	130 (93%)	10 (7%)	240 (90%)	25 (10%)	.54	.47	---
15. "All or More Than Half" (A) and"None or Less Than Half" (B) Responses, in Urbana (1) and Champaign (2), in Phase One, to the Question, "How Much of the Book Did You Read?"							
	76 (56%)	60 (44%)	72 (64%)	42 (36%)	1.66	.20	---
16. ---------- in Phase Two							
	79 (61%)	50 (39%)	162 (68%)	78 (32%)	1.32	.25	---
17. Affirmative (A) and Negative (B) Responses to the Question, "Did the Book Do for You What You Wanted It To Do?", in Urbana (1) and Champaign (2), in Phase One							
	104 (83%)	22 (17%)	83 (82%)	18 (18%)	.00	.99	---
18. ---------- in Phase Two							
	103 (88%)	14 (12%)	166 (80%)	41 (20%)	3.41	.07	---

which shows (a) that this was particularly true of the fiction titles in Champaign, (b) that in neither library is the distribution significantly different from chance, and (c) that the number of titles whose use declined was greater in Urbana than in Champaign, and the number of titles whose use increased was greater in Champaign than in Urbana, for both fiction and non-fiction. When we reconstruct the data from Table 5 to consider each type of book separately, for both libraries, the distribution for fiction is markedly different from chance ($p < .001$) while that for non-fiction is not ($p = .12$).

Table 6 shows yet another way of comparing the fiction and non-fiction circulation of these two libraries in these two phases, this time by the mean, median and modal circulation values both of all titles held of the selected list and of all selected titles which were actually borrowed. In the pre-experimental phase, Urbana Free Library had a lower circulation of fiction and a higher average circulation of non-fiction than did Champaign; in the experimental phase, Champaign had a higher (or equal) average circulation of both fiction and non-fiction than did Urbana. Between the two phases, for Urbana, the figure for phase two was the same or lower 17 times out of 18 in phase two than in phase one; for Champaign, the average in phase two was the same or higher than in phase one all 18 times. We conclude that the main impact of placing these selected titles in a prime location in the Champaign Public Library was to increase the circulation of the fiction books, but that the circulation of the non-fiction was also definitely improved.

The Champaign Public Library had a substantial number of copies of the selected titles in paperback format, while Urbana had very few. If the experimental variable was indeed the cause of the increased circulation of these selected titles, one would expect that the circulation of the paperback

TABLE 5
Changes in the Use of Individual Titles
from Phase One to Phase Two, for Each Library Separately

Urbana			No. of Titles Whose Circulation	Champaign		
Fiction	Non-Fiction	Total		Fiction	Non-Fiction	Total
21 (38%)	14 (27%)	35 (33%)	Declined	7 (13%)	7 (15%)	14 (14%)
10 (18%)	20 (38%)	30 (28%)	Stayed the Same	7 (13%)	14 (29%)	21 (20%)
24 (44%)	18 (35%)	42 (39%)	Increased	40 (74%)	27 (56%)	67 (66%)
55(100%)	52(100%)	107(100%)	Total	54(100%)	48(100%)	102(100%)

$x^2 = 4.75$, df = 2, p = .09 $x^2 = 4.54$, df = 2, p = .10

Note: If we remove the titles which did not circulate in either phase (about 75% of the category "Stayed the Same"), the p value for Urbana becomes .67, and for Champaign .60.

TABLE 6
Average Circulation of Selected Titles in Each Library
in Each Six-Month Period

Library		Fiction		Non-Fiction		Total	
		Phase One	Phase Two	Phase One	Phase Two	Phase One	Phase Two
A. Of All Selected Titles Held							
Urbana	(a)	3.0	2.4	1.6	1.6	2.3	2.0
	(b)	2	1	1	1	1	1
	(c)	0	1	0	0	0	0
Champaign	(a)	3.4	7.3	1.0	2.1	2.3	4.8
	(b)	2	4	0	1	1	3
	(c)	0	0,3	0	0	0	0
B. Of Those Selected Titles Which Were Actually Borrowed							
Urbana	(a)	4.0	3.1	3.0	2.7	3.6	3.0
	(b)	3	2	3	2	3	1
	(c)	1	1	1,3	1	1	1
Champaign	(a)	5.9	8.4	2.2	3.2	3.7	6.3
	(b)	3	6	2	2.5	3	4
	(c)	1	3	1	1,2	1	2,3

(a) mean, (b) median, (c) mode

copies would be proportionately no greater in the second six-month period than in the first. Table 7 (see Fig.2) shows that this was indeed the case. Paperback books were 32% of the circulation of these selected titles in Champaign in phase one, and 29% in phase two. Furthermore, as will be explained later, we secured information from the borrowers of most of these selected books on (among other things) the extent to which they read the books they borrowed. When we compared the responses of those Champaign readers who borrowed paperback copies with the responses of those who borrowed hardbound copies, the distribution was well within the limits of sampling variability, in both phase one and phase two ($p = .40$ and $.33$). There is then no reason to believe that the presence of paperback copies of the selected titles in the Champaign Public Library had a biasing effect in this experiment, or that the increased circulation in phase two was occasioned by availability of some of the books in paperback format.

From the information copied from the circulation records, it was possible to go to each library's file of borrower registration cards and in most cases to get information on certain personal characteristics of these borrowers. In both libraries, borrowers are expected to reregister every three years by filling out a new application for a borrower's card. Sex was judged from the given name and from the use of "Mr.","Miss" and "Mrs." Occupation was given in most cases, or could be estimated as when the borrower application card showed "high school student" or "college student" as the registrant's occupation, though this information could be up to two years old. Because this latter information was not always precise or up-to-date, and because of the number of cases for which it was not available (21% of all loans in phase one, and 16% in phase two), we have used only the grossest measure, viz.,

students (including both high school and college levels) and non-students (including housewives, retired, and all adult occupations).

One would hope that students would not predominate in the use of these selected titles,and that the occupational distribution of the borrowers of these selected titles would be essentially the same in both libraries in phase one and in phase two. In phase one, the occupational distribution of the borrowers in the two libraries was random (see Table 8, of Fig.2). In phase two, however, the distribution was significantly different from what chance alone would explain (see Table 9, of Fig. 2), partly because students borrowed proportionately more and non-students proportionately less in Urbana in phase two than in phase one, and mainly because in Champaign students borrowed even less and non-students even more in phase two than in phase one. The distribution of data for each library separately for both phases is significantly different from random ($p = .03$ for Urbana, and $p < .001$ for Champaign). The distribution of loans by students in both libraries in both phases is random ($p = .23$), but that of non-students is not ($p < .001$) with the number of non-students in Champaign in phase two being the highest by far of all four values. It appears that students used these selected books in both libraries in phase one to about the same extent, that in Champaign their use declined proportionately in phase two (and increased in Urbana), and that overall students' use of these books in both libraries in both phases was less than half of all circulations.

We also sought to determine if students (or non-students) had a proclivity for fiction or non-fiction, of these selected books. In Urbana in phase one, the distribution was random ($p = .77$), but in Champaign it was not ($p < .01$) with students borrowing more non-fiction and less fiction than

did non-students. In phase two, the situation was reversed; in Urbana, students borrowed proportionately more non-fiction than did non-students ($p = .04$), while in Champaign the distribution of fiction and non-fiction loans to students and non-students was random ($p = .40$). In comparing phase one and phase two, the distribution of fiction and of non-fiction borrowing by students and non-students in Champaign is not random ($p = .01$ and $.001$), in each case because non-students borrowed more books of each type in phase two than in phase one. For Urbana, the distribution of fiction borrowed by students and non-students in phase one and phase two is random ($p = .33$), but the distribution of non-fiction loans is not ($p = .02$), mainly because of the increase of non-fiction borrowed by students. We conclude that the experimental phase resulted in a more nearly desirable balance in Champaign, while the situation in the control library went out of balance.

In regard to the sex of these borrowers, it was hoped that men and women would be represented about the same in both libraries in both phases. Tables 10 and 11 (of Fig. 2) show that the distribution by sex in the two libraries in phase one was random, but in phase two it was significantly different from random, with proportionately fewer women borrowers in Urbana and proportionately more women borrowers in Champaign than in phase one. The sex distribution for Urbana borrowers in the two six-month periods is random ($p = .07$), as it is for Champaign ($p = .54$) and for male borrowers in both libraries in both phases ($p = .10$). The distribution of women borrowers in both phases was significantly other than random ($p < .001$), primarily because of the large number of women in Champaign in phase two. It seems clear that placing these selected books in a prime location resulted in a special appeal to women non-students borrowing fiction.

Analysis of Responses of Borrowers of Selected Titles

So far we have considered only the circulation of the selected titles in these two libraries, and some characteristics of their borrowers. In addition, however, we secured responses to four questions from more than half of the people who borrowed these titles from either library. The four questions were asked by telephone or by a double postcard (with the return half stamped and self-addressed), in each case about three weeks after the respondent borrowed the book. The four questions are shown here in the form used on the postcard; no suggested answers were given in the telephone interviews.

1. Did you borrow the book for yourself? Yes___, No___.
2. How much of the book did you read? None___, Less than half___, More than half___, All____.
3. How did you happen to select this book to read? Helped by librarian___, Browsing____, Recommended by another person____, School assignment____, Other___.
4. Did the book do for you what you wanted it to do? Yes___, No___.

Each adult borrower of any of the selected titles in the two libraries during the period from November 1969 to October 1970 was either sent a postcard with the four questions or was telephoned, with the following exceptions. If a given reader borrowed two or more of the selected titles at the same time, he was asked the four questions about only one of the books--whichever one the research assistant came on first. Furthermore the name of every new borrower of any of these selected titles was checked against a master file of such borrowers, and no one was approached more often than once every three months (or a maximum of twice in each six-month period). It was feared that repeated requests to the same persons for answers to these four questions would sensitize them to the issues involved and make them conscious of the pattern of their answers. At that, only six persons (two in Champaign and four in Urbana) were polled and responded twice in the first six-month period, and 19 (17 in Champaign and two in Urbana) in the second six months.

Answers were not always secured from those who were approached, and not all borrowers were able to be polled. Table 12 shows, for phase one and phase two, how many borrowers of these selected books were lost and for what reasons. The important question is whether the net sample of usable responses in each case is representative of the original universe.

The comparison was made (separately for each of the two communities for each phase) on three main possible points, viz., sex and occupation (student vs. non-student status) of the borrower, and type of book (fiction vs. non-fiction). In phase one the match was very good; Urbana respondents and non-respondents had the same distribution by sex ($p = .26$), occupation ($p = .77$), and type of book ($p = .99$), and the results were much the same for Champaign ($p = .07$, .32, and .99). In phase two, Urbana respondents again matched non-respondents ($p = .51$, .22, and .99), but Champaign respondents matched non-respondents only in regard to occupation ($p = .82$). Champaign respondents in phase two differed from non-respondents by sex ($p = .02$) and type of book borrowed ($p = .04$), with the imbalance coming from more women and more fiction among the respondents than among the non-respondents.

Table 12 reveals that the percentage of borrowers in phase two who were approached and did not respond is actually lower than in phase one (14% vs. 20%). The major difference between the two phases was the increase in the percentage of those not polled because of repeat circulation (22% vs. 11%), i.e., loans of two or more of the selected books to the same borrower within a three-month period. Of those not polled in phase two because of repeat circulations, 90% were Champaign borrowers; the number of repeat circulations in Urbana actually declined from phase one to phase two. (Table 2 has the same p value, $< .001$, even if we remove all 205 repeat circulations in both libraries in both phases of the study.)

TABLE 12
Distribution of Borrowers Involved in the Loans of Selected Titles
by Method of Contact

A. For Phase One:

	(a) Category	(b)	(c) Urbana	(d)	(e)	(f) Champaign	(g)	(h)	(i) Total	(j)
	Respondents	Percent of Total	No.	Percent of Sub-Total	Percent of Total	No.	Percent of Sub-Total	Percent of Total	No.	Percent of Sub-Total
1.	One or more telephone calls	(12%)	28	(17%)	(11%)	25	(17%)	(11%)	53	(17%)
2.	Post card	(41%)	101	(61%)	(42%)	98	(66%)	(42%)	199	(63%)
3.	Telephone call(s) plus post card	(7%)	16	(10%)	(4%)	8	(5%)	(5%)	24	(8%)
4.	Post card plus telephone call(s)	(8%)	20	(12%)	(7%)	17	(12%)	(8%)	37	(12%)
	Sub-Total	(68%)	165	(100%)	(64%)	148	(100%)	(66%)	313	(100%)
	Percentage of Sub-Total		53%			47%			100%	
	Non-Respondents									
5.	Post card plus telephone call(s)	(14%)	34	(43%)	(15%)	36	(43%)	(15%)	70	(43%)
6.	Telephone call(s), post card, plus telephone call(s)	(2%)	4	(5%)	(2%)	4	(5%)	(2%)	8	(5%)
7.	Post card sent but no follow-up telephone call possible	(3%)	7	(9%)	(4%)	9	(10.5%)	(3%)	16	(10%)
8.	Not polled because of repeat circulation	(10%)	26	(33%)	(11%)	26	(31%)	(11%)	52	(32%)
9.	Not polled because of incomplete or inaccurate information	(3%)	8	(10%)	(4%)	9	(10.5%)	(3%)	17	(10%)
	Sub-Total	(32%)	79	(100%)	(36%)	84	(100%)	(34%)	163	(100%)
	Percentage of Sub-Total		48%			52%			100%	
	Total	(100%)	244			232	(100%)	(100%)	476	
	Percentage of Total		51%			49%			100%	

B. For Phase Two:

(a) Category / Respondents	(b) Urbana Percent of Total	(c) Urbana No.	(d) Urbana Percent of Sub-Total	(e) Champaign Percent of Total	(f) Champaign No.	(g) Champaign Percent of Sub-Total	(h) Total Percent of Total	(i) Total No.	(j) Total Percent of Sub-Total
1. Post Card	(48%)	103	(74%)	(44%)	215	(81%)	(45%)	318	(78 %)
2. Post card and telephone call	(17%)	37	(26%)	(10%)	50	(19%)	(12%)	87	(22%)
Sub-Total	(65%)	140	(100%)	(54%)	265	(100%)	(57%)	405	(100%)
Percentage of Sub-Total		34%			66%			100%	
Non-Respondents									
3. Post card plus telephone call(s)	(16%)	34	(45%)	(13%)	65	(28%)	(14%)	99	(33%)
4. Not Polled because of repeat circulation	(7%)	15	(20%)	(28%)	138	(61%)	(22%)	153	(50%)
5. Not Polled because of incomplete or inaccurate information	(12%)	27	(35%)	(5%)	26	(11%)	(7%)	53	(17%)
Sub-Total	(35%)	76	(100%)	(46%)	229	(100%)	(43%)	305	(100%)
Percentage of Sub-Total		25%			75%			100%	
Total	(100%)	216		(100%)	494		(100%)	710	
Percentage of Total		30%			70%			100%	

24

Data were kept in phase one on the responses of borrowers to the four questions and as to whether they were secured by telephone or by postcard, in order to ascertain which--if either-- method was superior to the other, and to check the results secured by each. Of all 313 responses from the borrowers of these selected books from the two libraries in phase one, 90 (29%) were secured by telephone and 223 (71%) by postcard. Telephone respondents agreed with postcard respondents, within the limits of sampling variability, on their answers to the four substantive questions, and on their occupation (student or non-student) and type of book borrowed (fiction or non-fiction). Only on sex was the distribution other than random,with fewer men among the telephone respondents than in the postcard group.

Telephone returns were used as a check on postcard returns with regard specifically to whether postcard respondents would tend to answer question 3 ("How did you happen to select this book to read?") by checking "Browsing" on the postcard significantly more often than telephone respondents would give this answer. Of 70 telephone interviews completed, 28 (40%) answered question 3 with "Browsing" or some variant thereof; 72 (40%) of 181 postcard returns checked "Browsing" (or gave some equivalent) in answer to question 3. Similarly of six groups of public library patrons (of about 100 persons each) who were similarly polled in the Minneapolis-St. Paul area in 1966, three groups were interviewed by telephone and three received postcards; the average percentage of the three telephone groups who said they selected their books by browsing was 63%, the average of the three postcard groups was 56%.[1]

On the other hand it was feared that telephone respondents would seek to impress the interviewer by claiming to have read more of the books they borrowed than would postcard respondents. Of the 70 usable responses in the present

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[1] Herbert Goldhor, A Plan for the Development of Public Library Service in the Minneapolis-St. Paul Metropolitan Area (Minnesota State Department of Education, Library Division, 1967) p. 27-28, 93.

study which were secured by telephone, 31 (44%) said they read none or less than half of the books borrowed; 71 (39%) of the 180 postcard responses were to the same effect. Similarly in the Minneapolis-St. Paul study, the average of the three telephone groups who reported having read none or less than half of the books was 32%, and the average of the three postcard groups was 28%. Clearly telephone respondents do not claim to have read more of the books they borrowed than do patrons who report by postcard.

Telephoning and using double postcards are equally satisfactory, except that telephone interviews reached far fewer men than did the postcards. Since, in addition, the use of postcards was easier and took less time, in phase two the postcard method was used first, with telephone calls made only to those borrowers who failed to return the card in a reasonable time.

We turn now to a review of the answers received to these four questions. We asked the first question ("Did you borrow the book for yourself?") because the other three questions could not reasonably be answered by someone who had loaned his card to another person or had borrowed the book for him (and we did not accept answers to the other three questions except from an adult who had used or read the book himself). To support the hypothesis of our study, we would want the two libraries to be alike in this regard in phase one and in phase two. The responses to the first question, as shown in Tables 13 and 14 (of Fig. 2) support this prediction. It will be noticed that in both libraries the proportion of those who borrowed these books for themselves increased from phase one to phase two, so much so in fact that the distribution of responses to this question for each library separately, but for both phases, is significantly different from random ($p = .02$ for Urbana, and $< .001$ for Champaign). At least we can say that placing these selected books in a prime location in Champaign Public Library did <u>not</u> increase the proportion of patrons borrowing them for other people.

In the 1966 Minneapolis-St. Paul study, responses were secured from 573 borrowers from six different libraries; of these, 64 (11%) said they had not borrowed the book for themselves. Dick and Berelson found that 20% of 800 books returned to the Legler Branch of the Chicago Public Library by 363 adult patrons, in March to May 1940, had been read only by others.[1] And Luckham reports that, of 1685 visitors to two medium-sized English public libraries in 1965, 28% borrowed books for others, and 8% of 675 book borrowers were using other people's cards.[2] Furthermore, we compared those who said they borrowed these books for themselves with those who said they did not, in regard to sex and occupation (i.e., student status) of the borrower and to type of book borrowed. On the latter score, the two sets of borrowers were very much the same in both libraries in both phases. No male patron happened to borrow one of these books for another person in phase two in Urbana; but for phase one in Urbana and for both phases in Champaign, the sex distribution of those who borrowed these books for themselves and those who borrowed them for others was within the limits of sampling variability. In both libraries, in phase one, the distribution of these two groups of borrowers by occupation was other than random ($p = .01$ in each case), because students borrowed far fewer books for others than did non-students. For phase two, only one student in Urbana borrowed any of these books for another person, while in Champaign the occupational distribution of the two groups was random ($p = .65$). Similar comparisons between these same two types of respondents, in the six samples of the Minneapolis-

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[1] Elizabeth Dick and Bernard Berelson, "What Happens to Library Circulated Books?" Library Quarterly 18 (April 1948) p. 102. Four other studies in 1948 reported 19% to 29% of patrons were using someone else's card, loaned their card to someone else, or read public library books borrowed by others; see Bernard Berelson, The Library's Public: A Report of the Public Library Inquiry (Columbia University Press, 1949), p. 107-08.

[2] Bryan Luckham, The Library in Society: A Study of the Public Library in an Urban Setting (Research Publications No. 4; The Library Association, London, 1971) p. 62,66.

St. Paul study, showed no significant differences in the sex of borrowers or in the type of book borrowed. It would appear that introduction of the experimental variable in phase two did not result in the increased circulation because more people than usual borrowed these books for others, or because of any difference (in sex, occupation, or type of book) between those who borrowed the books for themselves and those who did not.

The second question asked was "How much of the book did you read?" We would hope of course that increased circulation of the selected books in Champaign was not at the expense of their being less read. We secured the responses in four categories: none, less than half, more than half, and all. Combining all 619 responses from both libraries in both six-month phases, the corresponding percentages are 10%, 27%, 11%, and 52%. These figures compare (a) with those found in samples of borrowers of six libraries in the Minneapolis-St. Paul area (3% read none of the books borrowed, 27% read half or less, and 70% read over half), (b) with those found between 1959 and 1962 in six samples of borrowers (five from the Evansville Public Library) (5% read none, 33% less than half, and 63% over half),[1] (c) with the results of a study in 1940 of 802 books returned by 363 adult patrons of the Legler Branch of the Chicago Public Library (3% were read not at all, 21% less than half, 7% about half, 6% more than half, and 63% were read completely),[2] and (d) with data from a 1948 study of 354 loans from a branch of the New York Public Library (66% were all read, 15% half or more, and 19% none or less than half).[3] The books borrowed in these other groups of cases were random samples of the adult circulation, which may explain the difference in the percentage of books not read at all.

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[1] Herbert Goldhor, "An Approach to Measuring Reference," RQ 3 (July 1964) p. 8,16.

[2] Dick and Berelson, op.cit., p. 104.

[3] Berelson, The Library's Public, op.cit., p. 109.

Because it was feared that even these four categories were too precise for accurate estimates by readers, the data in this study were combined into two categories, viz., all or more than half, and none or less than half. The results for phase one and phase two are presented in Tables 15 and 16(of Fig. 2), and show nicely enough there was no significant difference between the distribution of responses in the two libraries in either phase (or between the two phases for each library separately). The increased circulation of the selected titles in Champaign in phase two was not achieved at the price of less use of the borrowed books

One would think that non-fiction books are less completely read than fiction books. This was indeed true in Urbana both in phase one and in phase two, beyond the limits of chance alone ($p < .01$), but in Champaign the fiction and non-fiction books of these selected titles were reported as being read to about the same extent both in phase one ($p = .08$) and in phase two ($p = .15$). Fiction books were consistently read more fully in both libraries in both phases of this study; about two-thirds (68%) of 461 fiction fooks borrowed were read all or more than half through (vs. 88% of a sample of 450 fiction borrowed in 1940 from Legler Branch of the Chicago Public Library[1] and 80% of a sample of 204 fiction books studied in Minneapolis-St. Paul in 1966[2]). Non-fiction were also read consistently, but to a lesser extent in both libraries in both phases; just under half (47%) of 158 non-fiction books borrowed were read all or more than half through (vs. 47% of 354 non-fiction in Chicago, and 63% of 298 non-fiction loans in Minneapolis-St. Paul).

The distribution of fiction and of non-fiction books by extent of book

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[1] Dick and Berelson, op.cit., p. 104.

[2] From further analysis of the original responses summarized in Goldhor, A Plan for the Development of Public Library Service in the Minneapolis-St. Paul Area, op.cit.

read, in both libraries in both phases, is significantly different from what chance alone would occasion. The experiment in Champaign did not produce biased results in this regard either.

The third question, "How did you happen to pick this book?", was designed to ascertain just what brought this borrower together with this book. This bears on the crucial point as to whether or not the increased circulation of these books in Champaign in phase two was the result of browsing. Our hypothesis predicts that it is, and we would hope that browsing was equally important in both libraries in phase one but significantly more important in Champaign in phase two. Sixteen different categories of answers received to this question are compressed into seven, in Table 17, for both phase one and phase two. Clearly browsing was more important in Champaign in phase one than in Urbana, though it is also true that browsing increased in Champaign in phase two much more than it did in Urbana. A chi square test of the distribution of data in line (1) of Table 17 produces a p value of $<.001$, with the figure for Champaign in phase two markedly higher than any of the other three. Furthermore, school assignment was apparently a major factor in Urbana in phase one but a very small influence in Champaign in phase two.

Only one person in Champaign in phase two said he had the help of a library staff member, one said he had been influenced by a book review, and one said he had come on the book through the card catalog; each of the first two methods of selection was also given by one person in Urbana in phase two. In the six samples from the Minneapolis-St. Paul study, the average who said they picked their books by browsing was 59% of the total, 8% said they had the help of a librarian, and 33% used other ways. In the six samples from 1959 to 1962 (five from Evansville Public Library), the comparable percentages were 44%, 24%, and 32%. Four of these latter six samples were of patrons of the

TABLE 17
Summary of Responses to the Question,
"How Did You Happen to Pick This Book?"

Phase One				Phase Two		
Urbana	Champaign	Total	Response	Urbana	Champaign	Total
28 (21%)	35 (31%)	63 (25%)	(1) Browsing	32 (25%)	116 (49%)	148 (40%)
42 (31%)	21 (18%)	63 (25%)	(2) School Assignment	27 (21%)	6 (3%)	33 (9%)
15 (11%)	8 (7%)	23 (9%)	(3) Recommended by Another Person	15 (12%)	25 (10%)	40 (11%)
19 (14%)	12 (11%)	31 (13%)	(4) Influence of TV, Radio or Movies	9 (7%)	34 (14%)	43 (12%)
14 (10%)	24 (21%)	38 (15%)	(5) Wanted to reread;acquainted with author or with other of his books	29 (22%)	39 (16%)	68 (18%)
7 (5%)	10 (9%)	17 (7%)	(6) Special interest in the subject, or found reference to this title in another source or in a book list	14 (11%)	14 (6%)	28 (8%)
10 (8%)	4 (3%)	14 (6%)	(7) Miscellaneous (had help of librarian, wanted large print book, used card catalog, etc.)	3 (2%)	4 (2%)	7 (2%)
135(100%)	114(100%)	249(100%)	Sub-Total	129(100%)	238(100%)	367(100%)
54%	46%	100%	Percentage of Sub-Total	35%	65%	100%
109	118	227	No answer	87	256	343
244	232	476	Total	216	494	710

$x^2 = 15.80$, df = 6, p = .02

$x^2 = 49.91$, df = 6, $p < .001$

Young Adult Room, and all 12 of these other samples were drawn at random from the total circulation. Relevant data from a study of two medium-sized English public libraries in 1965 are not comparable, but one might interpret the reported data as indicating that 58% of 675 adult borrowers had selected their books by browsing[1].

Clearly the distribution of responses to this third question for the two libraries in phase one is not such as would arise by chance alone. If we had had this information available to us when we chose the site of the experiment, it would have been a more rigorous test of the hypothesis to have tried it in Urbana rather than in Champaign.

Since some of the groupings in Table 17 are not clearly discrete, we combined categories 1 and 5 and 3 and 6; the p values for the resultant data were unchanged (.01 in phase one, <.001 in phase two), and even when we compared browsing alone against the combined data of the other four categories. We compared the data for each library separately, between the two phases for these five categories (browsing, school assignment, special interest, influence of TV, radio and movies, and miscellaneous), and found that in every case the distribution is not random. We then analyzed the data for each of the first four categories separately, for both libraries and both phases, and found (a) that the distributions of data for "school assignment" and for "special interest" were random (p = .17 and .24), and (b) that the distributions of responses for "browsing" and for "influence of TV,radio, and movies" were not random (p = .02 and <.001), in each case with the figure for Champaign in phase two being by far the largest.

These findings give at least partial support to the prediction that browsing would cause the increased circulation of these selected books when placed in a prime location. In seeking to understand the difference in the responses in

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[1] Luckham, op.cit., p. 68-69, 164.

phase one, and in working with these data generally, we now think that we may have mixed together the answers to two different questions, viz., (1) Did you have this title (or particular class of book) in mind, before you went to the library? (2) If "Yes," from where did you get it? If "No," then what procedure or device led you to select this title? Thus a borrower might have had a school assignment to read an historical novel of his choice and write a book report on it; when asked why he borrowed this particular book, he might equally well say "school assignment" or "browsing."

The fourth and final question asked was "Did the book do for you what you wanted it to do?" This was the hardest question to formulate. We were not asking people why they borrowed these books, but whether they accomplished the purpose for which they borrowed the book, e.g., to write a term paper, to get some recreation, to put oneself to sleep, etc. We wanted either a "yes" or a "no" answer, and had no trouble in categorizing every response as predominantly positive or negative. What we wanted, of course, was comparable answers for the two libraries in phase one, and a relatively high percentage of affirmative responses in Champaign in phase two. Tables 17 and 18 (of Fig. 2) summarize the distribution of responses to this question, and show that there is no difference in the pattern of responses in the two communities in either phase. In the Minneapolis-St. Paul study, the average percentage of respondents saying they had had a satisfactory experience was 89%. In the six samples from 1959 to 1962, the comparable percentage was 86%.

One would expect that people who read more rather than less of the books they borrow would do so because the experience is enjoyable or satisfactory, and that people who are having a satisfactory experience in reading the books they borrowed would tend to read more of those books than do those who find it unsatisfactory. This relationship was indeed present both in phase one

and in phase two, well beyond the limits of sample variability, both in Urbana and in Champaign. The distribution of responses on this point for each type of experience separately in Urbana for both phases, is random, as are the responses of Champaign borrowers who were not satisfied. However in phase two, the number of Champaign borrowers who read all or more than half of the books they borrowed and who said they enjoyed the experience was markedly higher than might have been expected from the other data.

Furthermore we cross-analyzed the data on the methods used by borrowers to select these books, by their responses on whether they had a satisfactory experience with those books. If the hypothesis of this study is true, then it should desirably follow that people who borrowed these books by browsing have had proportionately as many satisfactory experiences in reading them as did people who selected their books by means other than browsing; if this is definitely not so, then presumably it would be well to discourage browsing. Happily the available data agree with the prediction. In both libraries in both phases, the proportion of people who were satisfied with the books they borrowed was essentially the same for those who selected their books by browsing (i.e., categories 1 and 5 of Table 17) as for those who selected their books by all other methods combined.

When we restructured the data to consider each type of experience separately, the proportion of those in phase one who were not satisfied with the books they borrowed had selected them about as often in both libraries by browsing as by other means ($p=.06$), while of those who were satisfied with their books, the distribution was just short of being within the limits of random chance ($p=.04$), and the disproportionately large value is the number of persons in Champaign who selected their books other than by browsing. In phase two, however, this small difference is comfortably wide. The dis-

tribution of readers with non-satisfactory experiences who selected their books by browsing and by other means is random (p = .52), while those with satisfactory experiences have a non-random distribution (p = .01) with the largest number being those readers in Champaign who picked their books by browsing.

We conclude that in this regard the hypothesis is supported by the evidence secured in this study, and that the placement of the selected titles in a prime location, in the Champaign Public Library in phase two, resulted in no less a proportion of satisfactory experiences in general, and as related to the method of selection. For what it is worth, school assignment and influence of TV, radio and movies were methods of selection of books to borrow which almost always resulted in satisfactory experiences. A large proportion of the latter group chose one or another part of Galsworthy's The Fortye Saga, as a result of the fact that a local television station aired twice each week the 26-week series of filmed dramatization of that story, and then repeated the whole process, covering the period from October 5, 1969 to October 14, 1970.

By contrast, the six samples of library borrowers studied in 1966 in the Minneapolis-St. Paul area had 479 respondents of whom 89% were satisfied with the books they had borrowed. Of these, 56% had selected them by browsing, while 77% of those who were dissatisfied had used browsing. Of those few who had used the following methods, 90% or more were satisfied with their selections: help of a librarian, recommendation of another person, special subject interest, book list, reference from another source, book review, and card catalog.

Summary and Conclusions

Public librarians have long known from actual experience that certain devices will measurably increase the circulation of books to adults, e.g., placing them in a prime location, covering them with book jackets or plastic covers, displaying new copies of older titles, giving readers access to books just returned from

circulation, distributing lists of a group of books, using paperback books, etc. It is supposed that the explanation for whatever general truth lies behind these experiences is that adult patrons of public libraries typically are not in search of specific titles or even of books in specific subject classes but are looking for something good to read, and that whatever device induces browsing will increase these patrons' use of the books in question, whatever impedes browsing will reduce their use, and whatever has no connection or effect on browsing will make no appreciable change in the use of the books so treated.

We have studied one aspect of this more general hypothesis, viz., that books placed in a prime location in a public library, so as to facilitate browsing, will circulate significantly more often than will the same books when left in their regular places in the library's general collection. An approximation of the classical four-cell experimental design was achieved by using two similar medium-sized public libraries (those of Urbana and Champaign, Illinois) and recording the use of 110 selected titles first in a six-month period when the books were on the regular shelves in both libraries, and second in another six-month period when these books were all placed in a prime location in one library (Champaign) and kept on the regular shelves in the other library (Urbana). Additional data were secured from most borrowers of these selected titles in the form of responses to four questions concerning a given book the patron had borrowed; in some regards the sub-sample of respondents did not match the non-respondents.

In this experimental design, it is desired that the situation be the same in the two libraries in phase one (the first six-month period), or differ by no more than chance alone would allow. At the end of phase two, it is hypothesized that certain differences (significantly greater than chance alone would allow) will be evident between the control library (Urbana) and the library in which the experimental variable was introduced (Champaign), and between the experimental

library in phase one and in phase two. The situation in the control library should be essentially the same in phase one as in phase two, as evidence of the absence of any general changes in the situation which might have produced the difference in results in the experimental library in phase two.

In the analysis of the data from the two libraries for phase one, it was found in general and on many points that the situation was essentially the same in both cases. On two points, there were important differences. Champaign loaned proportionately more fiction (and proportionately less non-fiction) than did Urbana, and proportionately more fiction (and less non-fiction) to non-students than to students. More importantly, Champaign borrowers used browsing to select these books more often, and all other selection methods less often, than did the Urbana patrons. But all the responses on this particular point (the reader's method of selection of the book he borrowed) are now felt to be open to question and may contain an unknown mixture of responses to two different questions. Apart from this, and on several other points, the situations in the two libraries in phase one were found to be similar.

After the second six-months were over, the relevant data were assembled and analyzed for the experimental period in Champaign and for the control period in Urbana. The circulation of these selected titles in Champaign in phase two was much larger than in phase one and much larger than in Urbana in phase two, so much so that the resulting distribution is significantly different from random. This by itself establishes only a temporal correlation, and not a causal connection between the display location and the increased use of the books. On the many different points which were presented above, in most cases the data support the hypothesis and the influence of browsing, sometimes directly and sometimes indirectly by eliminating alternative factors or possible undesirable consequences of the increased circulation

of these books when placed in a prime location. The one main new factor in which imbalance was introduced in the Champaign situation in phase two was the disproportionate number of women borrowers.

Several possible improvements in methodology have been suggested or implied. Repeat circulations should possibly not be skipped, and this might produce a sample of respondents who better match the non-respondents. It must be remembered that no verification was made of the answers secured from the borrowers of these books; some error was undoubtedly introduced. But in summary this study supports the initial hypothesis, within the limits of the data presented; better studies in other libraries of the same and of other books are needed to justify any further generalization.

Graduate School of Library Science
University of Illinois
March 1972

APPENDIX A
List of the 110 Selected Titles

(Column A shows the number of copies held by Urbana Free Library and by Champaign Public Library. Column B records the circulation of each title in phase one in Urbana Free Library and in Champaign Public Library. Column C shows the circulation in phase two.)

	Fiction	A	B	C
1.	Austen. Pride and Prejudice.	7-7	4-3	5-15
2.	Balzac. Le Pere Goriot.	3-5	1-0	0-12
3.	Bellamy. Looking Backward.	2-2	2-3	1-6
4.	Bennet. Old Wives' Tale	1-3	1-0	0-0
5.	Bronte. Jane Eyre.	4-4	5-4	3-10
6.	Bronte. Wuthering Heights.	4-6	4-12	5-21
7.	Butler. Way of all Flesh.	2-3	6-1	7-3
8.	Cather. My Antonia.	4-5	5-6	1-9
9.	Cervantes. Don Quixote.	2-7	3-1	3-13
10.	Clemens. Huckleberry Finn.	3-6	7-5	2-6
11.	Conrad. Lord Jim.	2-7	2-6	1-13
12.	Cooper. Last of the Mohicans.	3-5	1-1	0-6
13.	Crane. Red Badge of Courage.	5-6	13-11	4-10
14.	Defoe. Robinson Crusoe.	3-6	3-3	1-3
15.	Dickens. David Copperfield.	5-7	4-8	4-11
16.	Dos Passos. U.S.A.	1-1	0-0	1-2
17.	Dostoyevsky. Brothers Karamazov.	3-4	3-3	4-3
18.	Dumas. Three Musketeers.	3-3	2-3	0-4
19.	Eliot. Silas Marner.	4-5	4-3	5-7
20.	Faulkner. Sound and the Fury.	2-3	9-7	5-3
21.	Fielding. History of Tom Jones.	5-5	5-0	1-2
22.	Flaubert. Madame Bovary.	2-9	1-3	1-5
23.	France. Penguin Island	1-1	0-0	1-2
24.	Galsworthy. Forsyte Saga.	2-6	19-26	16-90
25.	Hardy. Return of the Native.	2-5	6-14	1-15
26.	Hawthorne. Scarlet Letter.	5-9	4-3	6-10
27.	Hemingway. Farewell to Arms.	3-6	0-4	2-12
28.	Howells. Rise of Silas Lapham.	2-1	0-0	1-1
29.	Hudson. Green Mansions.	2-5	1-6	1-8
30.	Hugo. Les Miserables.	2-2	4-0	2-4
31.	James. Ambassadors.	1-3	0-5	3-3
32.	Joyce. Portrait of the Artist.	1-2	0-0	0-6
33.	Lagerlof. Gosta Berling.	2-1	2-0	1-0
34.	Lewis. Arrowsmith.	1-4	1-2	3-4
35.	Mann. Magic Mountain	2-2	2-0	0-3
36.	Maugham. Of Human Bondage.	2-4	4-4	4-7
37.	Melville. Moby Dick.	5-5	3-2	1-0
38.	Meredith. Egotist.	1-0	0-0	0-0
39.	Merejcovski. Leonardo da Vinci.	1-1	0-0	0-0
40.	Orwell. 1984.	3-9	7-10	10-8

APPENDIX A (Con't.)

	Fiction	A	B	C
41.	Proust. Swann's Way.	1-2	0-1	0-1
42.	Rolland. Jean-Christophe.	3-2	0-0	3-4
43.	Rolvaag. Giants in the Earth.	3-1	1-1	2-0
44.	Scott. Ivanhoe.	2-4	0-1	2-4
45.	Siekiewicz. Quo Vadis.	1-2	0-1	1-3
46.	Sterne. Tristram Shandy.	1-1	0-0	0-0
47.	Swift. Gulliver's Travels.	5-7	7-2	0-0
48.	Thackeray. Vanity Fair.	3-4	5-4	6-7
49.	Tolstoi. War and Peace.	2-4	1-5	2-10
50.	Undset. Kristin Lavransdatter.	2-1	1-0	3-2
51.	Voltaire. Candide.	2-4	0-0	1-1
52.	Wharton. Ethan Frome.	4-1	1-1	2-7
53.	Wilder. Bridge of San Luis Rey.	4-3	4-4	0-5
54.	Wolfe. Look Homeward Angel.	1-5	4-2	5-10
55.	Woolf. To the Lighthouse.	1-2	2-1	1-4
	Number of titles circulated		41-39	43-47
	Non-Fiction			
56.	Adams. Education of Henry Adams.	2-1	0-1	0-0
57.	Beard. American Spirit.	1-1	0-0	0-1
58.	Benet. John Brown's Body.	1-1	1-0	0-0
59.	Boswell. Samuel Johnson.	3-3	0-0	0-1
60.	Bowen. Yankee from Olympus.	2-3	0-2	0-5
61.	Brinton. Ideas and Man.	1-1	0-0	0-1
62.	Chaucer. Canterbury Tales.	3-3	1-3	8-6
63.	Cheney. New World History of Art.	1-1	0-2	0-1
64.	Dana. Two Years Before the Mast.	2-4	2-4	0-5
65.	Dante. Divine Comedy.	1-3	3-0	2-0
66.	Day. Life With Father.	4-4	3-5	1-9
67.	Dickinson. Poems.	1-1	4-1	6-3
68.	Eliot. Complete Poems and Plays.	0*-0	0-0	3-0
69.	Emerson. Essays.	1-2	0-0	0-3
70.	Franklin. Autobiography.	6-4	3-4	1-3
71.	Frazier. Golden Bough.	3-2	0-1	2-2
72.	Freud. Introduction to Psychoanalysis	1-3	3-1	4-4
73.	Frost. Complete Poems.	2-0	5-0	6-0
74.	Gibbon. Decline and Fall of the Roman Empire.	2-5	0-2	2-2
75.	Goethe. Faust.	1-2	1-0	1-1
76.	Gombrich. Story of Art.	1-1	3-0	3-0
77.	Hamilton. Greek Way.	1-1	0-0	0-1
78.	Homer. Odyssey.	5-2	1-0	3-3
79.	Ibsen. Eleven Plays.	0-0	0-0	0-0
80.	James. Psychology.	1-1	0-0	1-0

APPENDIX A (Con't.)

	Non-Fiction	A	B	C
81.	Kipling. Selection of His Stories and Poems.	1-0	0-0	0-0
82.	Lamb. Essays of Elia.	1-1	0-0	0-0
83.	Machiavelli. The Prince.	1-3	4-0	0-0
84.	Masefield. Poems.	1-1	0-0	0-0
85.	Moliere. Comedies.	1-1	5-0	1-0
86.	Murray. Fifteen Greek Plays.	0-0	0-0	0-0
87.	Northrop. Meeting of East and West	0*-0	0-0	0-0
88.	O'Neill. Nine Plays.	0-1	0-0	0-0
89.	Palgrave. Golden Treasury.	2-4	0-0	1-2
90.	Parkman. Oregon Trail.	2-5	2-0	6-4
91.	Parrington. Main Currents in American Thought.	1-1	0-1	0-2
92.	Pepys. Diary.	1-0	2-0	1-0
93.	Plato. Republic.	3-1	1-0	5-0
94.	Plutarch. Lives.	2-3	0-0	1-2
95.	Poe. Tales and Poems.	2-1	3-3	1-2
96.	Rabelais. Gargantua and Pantagruel.	1-2	0-0	0-0
97.	Riesman. Lonely Crowd.	1-4	0-5	0-7
98.	Robinson. Collected Poems.	1-1	1-0	1-0
99.	Schlesinger. Age of Jackson	1-3	0-2	0-3
100.	Schweitzer. Out of My Life and Thought.	1-2	1-1	2-0
101.	Shakespeare. Plays.	2-1	12-1	2-2
102.	Shaw. Seven Plays.	2-1	2-1	6-4
103.	Steffens. Autobiography.	2-2	4-1	0-0
104.	Strachey. Queen Victoria.	2-1	0-2	2-6
105.	Thomas. Abraham Lincoln.	2-1	3-0	0-0
106.	Thoreau. Walden.	4-4	4-3	6-6
107.	Tocqueville. Democracy in America.	2-1	0-1	1-4
108.	Untermeyer. Modern American/British Poetry.	1-2	4-0	2-1
109.	Wells. Outline of History.	1-2	0-0	0-1
110.	Whitman. Leaves of Grass.	4-2	2-3	1-2
	Number of titles circulated		27-23	30-32
	Total number of titles circulated		68-62	73-79

* One copy was added in Urbana by the end of phase one.